

Fam. GEOMETRIDÆ.Subfam. *URAPTERYGINÆ.*

SERICOPTERA.

Sericoptera, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 27, 40, no. 39 (1853).

Ripula, Guenée, Sp. gén. des Lép. ix. p. 34 (1857); Butler, Journ. Linn. Soc., Zool. xvii. p. 200, t. 9. ff. 17, 18 (neuration ♂) (1884).

1. *Sericoptera mahometaria*.

Sericoptera mahometaria, Herr.-Schäff. Samml. aussereur. Schmett. pp. 40, 78, ff. 69, 70¹; Corr.-Blatt zool.-min. Ver. Regensb. 1870, sep. copy, p. 47².

Ripula mahometaria, Guen. Sp. gén. des Lép. ix. p. 34³; Walk. Cat. xx. p. 13⁴; Snell. Tijdschr. voor Ent. xvii. p. 11⁵; Butl. Journ. Linn. Soc., Zool. xvii. p. 200⁶; Reiss & Stübel, Reisen in Süd-Amerika, p. 57⁷.

Ripula mexicaria, Guen. Sp. gén. des Lép. ix. p. 35⁸; Walk. Cat. xx. p. 14⁹.

Hab. MEXICO^{4 6 8 9}, Oaxaca (*Sallé, in Mus. Brit.*⁴), Tuxpan (*coll. Schaus*), Coatepec (*Schaus, Brooks*), Jalapa (*Höge*); GUATEMALA, in the city (*Rodriguez*), Dueñas, San Isidro 1600 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*). — COLOMBIA⁵, Frontino; VENEZUELA^{1 3}; ECUADOR⁷; BOLIVIA^{4 6}; SOUTH-EAST BRAZIL, Rio Janeiro; CUBA².

This species varies considerably in size and colour, and also in the distinctness of the markings. It is possible that *S. mahometaria* may be inseparable from *Phalæna area*, Cram.; but Cramer's figure is so unlike any of the specimens before me that I prefer using Herr.-Schäffer's name, instead of sinking it as a synonym as Möschler has done (Verh. zool.-bot. Ges. Wien, 1881, p. 394).

NEPHELOLEUCA.

Nepheleuca, Butler, Journ. Linn. Soc., Zool. xvii. pp. 197, 201, t. 9. ff. 11, 12 (neuration) (1883).

Butler based this genus upon *Phalæna politia*, Cram., a species that had been placed in *Urapteryx* by Leach, Guenée, Snellen, and others, but from which it differs considerably in form and neuration. A second species is now added from our region.

1. *Nepheleuca politia*.

Phalæna politia, Cram. Pap. Exot. ii. p. 65, t. 139. f. E¹.

Phalæna Geometra politata, Fabr. Sp. Ins. ii. p. 253².

Eulepidotis politaria, Hübn. Verz. bek. Schmett. p. 291³.

Ourapteryx politata, Leach, Zool. Misc. i. p. 80, t. 35. f. 1⁴.

Urapteryx politata, Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1870, sep. copy, p. 49⁵;

Guen. Sp. gén. des Lép. ix. p. 30⁶.

BIOL. CENTR.-AMER., Heter., Vol. II., November 1891.

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Urapteryx politia, Walk. Cat. xx. p. 7⁷; Snell. Tijdschr. voor Ent. xvii. p. 10⁸; Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 394⁹; Beitr. Schmett.-Fauna von Jamaica, p. 67¹⁰; Reiss & Stübel, Reisen in Süd-Amerika, p. 57¹¹.

Urapteryx complicata, Guen. Sp. gén. des Léop. ix. p. 30, Phalén. t. 6. f. 9¹²; Walk. Cat. xx. p. 7¹³.

Hab. MEXICO, Oaxaca (*Sallé*⁷), Jalapa, Coatepec (*coll. Schaus*), Cordova (*Rümeli*), San Lorenzo (*M. Trujillo*), Teapa in Tabasco (*H. H. Smith*); GUATEMALA, El Tumbador, San Isidro, Volcan de Atitlan, San Gerónimo (*Champion*); NICARAGUA, Chontales (*Belt*); PANAMA, Chiriqui (*Ribbe*; *Arcé, mus. D.*).—COLOMBIA⁸; ECUADOR¹¹, Quito⁷; GUIANA, Surinam^{1 4 7}, Cayenne^{6 7}, Paramaribo⁹; AMAZONS; BRAZIL^{6 7}, S. Paulo, Rio Janeiro; ANTILLES, Cuba⁵, Jamaica^{7 10}, San Domingo⁷, Haiti^{12 13}, Dominica.

This insect varies considerably in the extent of the dark-coloured markings on the secondaries, the specimens from South-east Brazil having these wings much more heavily marked than those from the more northern localities. Grote, 'Canadian Entomologist,' xv. p. 6, describes a variety of this species, from Indian River, under the name of *floridata*. Mr. Schaus informs us that this is a rare species in Mexico; in Colombia and Ecuador it is exceedingly common.

2. *Nepheloleuca arдания*, sp. n. (Tab. XLII. fig. 1, ♂.)

Male. Primaries and secondaries creamy-white; the primaries crossed from the costal to the inner margin by four rather wide pale brownish-grey lines—the first near the base, the second just beyond the cell, the third halfway between the cell and the outer margin, and the fourth submarginal,—the costal margin from the base to the apex and also the outer margin thickly streaked with fine brownish-grey lines, a well-defined brownish-grey line at the end of the cell, the fringe brownish-grey; the secondaries crossed below the middle from near the costal margin to the anal angle by two distinct pale greyish-brown lines, between which a third line partly crosses the wing, a straight pale brownish-grey line extending from the base along the inner margin to the anal angle, and a black spot shaded round with yellow placed close to the margin in the short tail; the underside of both wings white, with indications of the lines as above and a submarginal row of small black dots: head, thorax, abdomen, anal tuft, palpi, and legs creamy-white, the antennæ yellowish-white, the eyes black. Expanse $2\frac{1}{10}$ inches.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Two males of this very distinct species were captured by Mr. Champion. Although very unlike *N. politia* in colour and markings, the neuration is exactly similar. *N. arдания* bears a slight resemblance to some of the eastern species of *Micronia*.

ÆSCHROPTERYX.

Chærodes, Guenée, Sp. gén. des Léop. ix. p. 35 (1857) (nomen præocc.).

Æschropteryx, Butler, Journ. Linn. Soc., Zool. xvii. pp. 197, 204, t. 9. ff. 7, 8 (neuration) (1883).

Butler gives *Chærodes tetragonata*, Guen., from Brazil, as the type of this genus, at the same time including in it five other species. The name *Chærodes* (not *Chærodes* as given by Butler) is preoccupied in both Coleoptera and Mammalia.

1. **Æschropteryx tetragonata.**

Chærodes tetragonata, Guen. Sp. gén. des Léop. ix. p. 36, Phalén. t. 8. f. 1¹; Walk. Cat. xx. p. 21²; Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 394³; Reiss & Stübel, Reisen in Süd-Amerika, p. 47⁴.

Æschropteryx tetragonata, Butl. Journ. Linn. Soc., Zool. xvii. p. 204⁵.

Chærodes bifiliaria, Feld. & Rogenh. Reise der Novara, Lep. t. 122. f. 1⁶.

Hab. PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*). — COLOMBIA; ECUADOR⁴, Quito^{2 5}; VENEZUELA^{2 5}; GUIANA, Paramaribo³; AMAZONS, Pebas⁵; BRAZIL¹.

From our region I have only seen one specimen, a female, kindly communicated by Dr. Staudinger. This agrees perfectly with others before me from Colombia and Ecuador, whence we have a good series of examples. The South-American specimens show very slight variation in colour, but the Colombian ones are a little paler than those from Ecuador.

2. **Æschropteryx incaudata.**

Chærodes incaudata, Guen. Sp. gén. des Léop. ix. p. 39¹; Walk. Cat. xx. p. 26².

Hab. PANAMA, Chiriqui (*Arcé, in mus. D.*), Volcan de Chiriqui (*Trötsch, in mus. Staudinger*). — BRAZIL? ^{1 2}.

I have seen two specimens of this species from Chiriqui. It is very closely allied to *Æ. onustaria*, but is larger, and has the lines on the primaries straighter.

3. **Æschropteryx onustaria.**

Therinia onustaria, Geyer, in Hübner's Zutr. Samml. exot. Schmett. iv. p. 19, ff. 667, 668¹.

Chærodes onustaria, Guen. Sp. gén. des Léop. ix. p. 37²; Walk. Cat. xx. p. 26³; Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 394⁴.

Chærodes invisata, Guen. Sp. gén. des Léop. ix. p. 37⁵; Walk. Cat. xx. p. 22⁶.

Hab. MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet, Pantaleon 1700 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*), Panama city (*J. J. Walker*). — GUIANA, Paramaribo⁴; BRAZIL^{5 6}.

This species is common in Guatemala and the State of Panama. It varies very considerably in colour and in the distinctness of the markings. Guatemalan specimens are always paler in colour than those from more southern localities. Geyer gives¹ Java as the locality of his specimen, but that must be a mistake, the genus being entirely confined to the New World. The Mexican specimen in Mr. Schaus's collection is smaller, and has the secondaries less angular than usual; but in our large series from Guatemala we have two or three examples very similar to it.

4. **Æschropteryx marciana**, sp. n. (Tab. XLII. fig. 2.)

Male. Primaries and secondaries pale greyish-brown, the primaries with very faint brown streaks over the greater part of the surface, a black dot at the end of the cell of both wings; the primaries crossed from

the apex to about the middle of the inner margin by a narrow whitish-brown line, which is edged on the inner side with a darker line, this latter interrupted by the nervures, which are white; the secondaries crossed about the middle by a line corresponding to that on the primaries, below which are some dark streaks and spots; the underside of both wings dull greyish-brown, with the black dots very distinct; the fringe greyish-brown: head and collar blackish-brown; the thorax, abdomen, and hind legs greyish-brown; the front legs and antennæ dark brown, the former banded with pale greyish-brown. The female very similar to the male, but considerably paler in colour. Expanse, ♂ $2\frac{4}{10}$, ♀ $2\frac{1}{4}$ inches.

Hab. MEXICO, Coatepec, Jalapa (*coll. Schaus*); GUATEMALA, El Tumbador 2500 feet, Rio Naranjo 450 feet, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

Mr. Schaus informs us that this is a rare insect in Mexico; we have only received it from Guatemala. *Æ. marcianna* is allied to *Æ. onustaria*, from which it may be readily distinguished by its greyish colour, larger size, and blackish-brown head and collar.

5. *Æschropteryx martina*, sp. n. (Tab. XLII. fig. 3, ♂.)

Male. Primaries and secondaries pale yellowish-brown, each crossed by a darker line, below which the wings are indistinctly clouded with brown, a black dot at the end of the cell on the primaries, the costal margin of the latter rather paler in colour than the other part of the wing; the underside of both wings pale fawn-colour, thickly irrorated with dark brown dots: head and front of the thorax yellowish-brown, the abdomen and legs darker in colour, the antennæ brown. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, in the city (*Rodriguez*), San Gerónimo and El Jicaro in Vera Paz (*Champion*).

Four specimens, all males. The example from the city of Guatemala is darker in colour than the others. *Æ. martina* is not closely allied to any species known to me.

MICROGONIA.

Microgonia, Herrich-Schäffer, Samml. aussereur. Schmett. p. 41 (1855).

Herrich-Schäffer referred three species to this genus, and mentioned another as possibly belonging to it.

1. *Microgonia rhodaria*.

Microgonia rhodaria, Herr.-Schäff. Samml. aussereur. Schmett. pp. 41, 63, f. 348¹.

Chærodes (?) *rhodaria*, Walk. Cat. xxvi. p. 1480².

Hab. PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—BRAZIL^{1 2}.

A specimen from Chiriqui agrees fairly well with Herrich-Schäffer's figure, but it is darker in colour.

CIRSODES.

Cirsodes, Guenée, Sp. gén. des Léop. ix. p. 41 (1857); Walker, Cat. xx. p. 30.

Laudosia, Walker, Cat. xx. p. 268.

Guenée included three species in this genus, one from Brazil and two from Colombia.

It is allied to *Sabulodes*, from which it may be at once distinguished by the outer margin of the secondaries being very much rounded, instead of angular, as in that genus.

1. **Cirsodes acuminata.** (Tab. XLII. fig. 5, ♀.)

Cirsodes acuminata, Guen. Sp. gén. des Lép. ix. p. 41¹; Walk. Cat. xx. p. 31².

Laudosia buddloraria, Walk. Cat. xx. p. 268³, & xxvi. p. 1524.

Hab. MEXICO, Jalapa, Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—COLOMBIA, Antioquia; VENEZUELA³; ECUADOR; BRAZIL^{1 2}.

We have only received two female specimens of this insect; but both sexes are represented in Mr. Schaus's collection. Our figure of the female is taken from a Chiriqui example. The Mexican male agrees with others of the same sex from Colombia and Ecuador in my own collection.

2. **Cirsodes arceno**, sp. n. (Tab. XLII. fig. 4, ♂.)

Male. Primaries and secondaries pale brownish-fawn-colour; the primaries crossed from the costal to the inner margin by two faint, waved, brown lines—the first nearest the base, the second almost submarginal,—and with several small black spots on the outer side of the external line, those nearest the apex being the largest, a dark brown spot at the end of the cell; the secondaries crossed below the middle from the costal to the inner margin by a faint line; the underside very similar to the upperside, but more thickly irrorated with darker scales: head, thorax, abdomen, antennæ, and legs pale fawn-colour. Expanse $1\frac{3}{8}$ inch.

Hab. MEXICO, Las Vigas (*coll. Schaus*).

Two specimens, both males. Allied to *C. acuminata*, Guen., but altogether smaller and also darker in colour.

SABULODES.

Sabulodes, Guenée, Sp. gen. des Lép. ix. p. 42 (1857); Walker, Cat. xx. p. 32.

Guenée placed nine species in this genus, all from Tropical South America; and others have since been described by Felder and Rogenhofer, Snellen, and Oberthür. No less than eight are now added from our region.

1. **Sabulodes arenularia.**

Sabulodes arenularia, Snell. Tijdschr. voor Ent. xvii. p. 12, t. i. f. 1¹.

Hab. MEXICO, Las Vigas (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*), Coatepec (*Brooks*); GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota¹; ECUADOR.

2. **Sabulodes arge**, sp. n. (Tab. XLII. fig. 6.)

Male. Primaries and secondaries uniform pale fawn-colour, slightly hyaline, both wings crossed beyond the middle by a very indistinct narrow line, and with very minute black dots on each vein, the fringe rather darker than the ground-colour; the underside as above, but slightly paler in colour: head, thorax,

abdomen, antennæ, and legs pale fawn-colour. The female is very similar to the male, but is paler in colour and has the outer margin of the primaries more angular. Expanse, ♂ $1\frac{1}{2}$, ♀ $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*), Guatemala city (*Rodriguez, in mus. D.*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*), Chiriqui (*Ribbe, in mus. Staudinger*).

Examples of both sexes of this insect have been kindly given to me by M. Léon Candèze; two female specimens only were obtained by Mr. Champion.

3. *Sabulodes argyra*, sp. n. (Tab. XLII. figg. 7, ♂; 8, ♀.)

Male. Primaries and secondaries greyish-white; the primaries crossed from the costal to the inner margin by three lines—the first two nearly straight, the third very much waved and joining the second line on the inner margin; the secondaries crossed from the costal to the inner margin by two faint lines, which coalesce on the inner margin above the anal angle; the underside of both wings nearly white, without markings, except a faint spot at the end of the cell on the primaries: head, thorax, and abdomen pale yellowish-brown, shaded with white, the antennæ and legs very pale fawn-colour. The female is slightly larger, darker in colour, and has all the lines much more distinctly marked than in the male; it has the underside thickly irrorated with brownish-grey scales, and there is a rather large black spot at the end of the cell of both wings. Expanse, ♂ $1\frac{3}{4}$, ♀ 2 inches.

Hab. GUATEMALA, Totonicapam 8500 to 10,500 feet (*Champion*).

Two examples, one of each sex, from the pine-woods on the summit of the Cordillera above Totonicapam.

4. *Sabulodes arses*, sp. n. (Tab. XLII. figg. 11, ♂; 12, 13, ♀.)

Male. Primaries and secondaries very pale greyish-fawn-colour, thickly irrorated with darker scales; the primaries crossed from the costal to the inner margin by three darker waved lines—the third very much broken and hardly reaching the inner margin; the secondaries crossed by two lines, the inner one very much more distinct than the outer one; the underside greyish-white, the primaries with the costal margin thickly irrorated with brown scales, and with a black dot at the end of the cell, a narrow black submarginal line extending from the apex to near the anal angle of both wings: head, thorax, abdomen, antennæ, and legs pale greyish-fawn-colour. The female is slightly larger and more dusky in colour than the male, and has the submarginal row of spots on the veins of both wings much more distinct. Expanse, ♂ $1\frac{1}{2}$, ♀ $1\frac{3}{4}$ inch.

Hab. MEXICO, Coatepec (*coll. Schaus, Brooks*), Jalapa (*M. Trujillo*).

Allied to *S. argyra*, but easily distinguishable therefrom by the black submarginal line on the underside of both wings; the females of the two species, as will be seen from our figures, are very distinct.

Two specimens only, both females, have been received by us; the male example is contained in Mr. Schaus's collection.

5. *Sabulodes mastaura*, sp. n. (Tab. XLII. figg. 9, ♂; 10, ♀.)

Male. Primaries and secondaries very pale greyish-fawn-colour, thickly irrorated with darker scales; the primaries crossed from the costal to the inner margin by two waved pale lines—the first nearest the base, bordered on the outer side with a darker line, the second almost submarginal, the latter bordered on the inner side with a rather wide darker band,—and with a dusky spot at the end of the cell; the secondaries crossed by two very faint waved lines; the underside of both wings uniformly greyish-white: head, thorax abdomen, antennæ, and legs pale greyish-fawn-colour. The female is larger than

the male, greyer in colour, and has the lines on both wings very much more distinctly marked. Expanse, ♂ $1\frac{1}{2}$, ♀ $1\frac{3}{4}$ inch.

Hab. MEXICO, Las Vigas (*coll. Schaus*).

Mr. Schaus informs me that this species is common at Las Vigas in the month of May. We have not received any specimens of it.

S. mastaura is nearest allied to the Guatemalan *S. argyra*.

6. *Sabulodes matrona*, sp. n. (Tab. XLII. fig. 14, ♂.)

Male. Primaries and secondaries pale yellowish-white, crossed from costal to the inner margin by two very faint dusky lines, the submarginal line represented by a row of small dots on the veins, the fringe pale yellowish-white; the underside pale yellowish-white, considerably darker along the costal margin of the primaries, both wings with a submarginal row of small black dots, the ends of the veins with very minute black points, a black dot on both wings at the end of the cell: head, thorax, abdomen, and legs yellowish, the antennæ yellowish-brown. Expanse, ♂, $1\frac{3}{4}$ inch.

Hab. MEXICO, Las Vigas (*coll. Schaus*).

Seven specimens, one of which is of a darker yellow colour than the others, with all the lines very indistinct.

7. *Sabulodes meduana*, sp. n. (Tab. XLII. fig. 15, ♂.)

Male. Primaries and secondaries pale fawn-colour, paler at the base, slightly irrorated with darker scales and with black points along the outer margin at the ends of the veins; the underside greyish-white, the costal margin and the apex shaded with pale reddish-brown: head, thorax, abdomen, and legs the same colour as the wings, the antennæ reddish-brown. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Las Vigas (*coll. Schaus*).

Four specimens. A very dull-coloured species, with scarcely any markings; it appears to be allied to *S. ægrotata* (Guen.).

8. *Sabulodes ægrotata*.

Tetraxis ægrotata, Guen. Sp. gén. des Lép. ix. p. 141¹; Walk. Cat. xx. p. 173²; Grote, List of North-American Moths, p. 44³; Pack. United States Geol. Surv. of the Territ. x. p. 555, t. 13. f. 65 (1876)⁴.

Chærodes ægrotata, Pack. Proc. Bost. Soc. Nat. Hist. xiii. p. 382⁵.

Hab. NORTH AMERICA, California^{1 2 3 4 5}.—MEXICO, Coatepec (*Brooks*); Jalapa (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, Las Mercedes 3000 feet, Volcan de Atitlan 2500 to 3500 feet, San Gerónimo (*Champion*), Guatemala city (*Rodriguez*); PANAMA, Volcan de Chiriqui 4000 feet (*Champion*).—COLOMBIA, Antioquia; PERU.

This species has a very extended range, from California to Colombia and Peru. It varies slightly in colour, but can always be distinguished from the allied forms by the reddish-brown patch inside the row of black spots on the underside of the primaries.

9. *Sabulodes arnissa*, sp. n. (Tab. XLII. figg. 16, ♂; 17, 18, ♀.)

Male. Primaries and secondaries dull brownish-fawn-colour, crossed beyond the middle by a rather wide but very indistinct dark waved band, a dark spot at the end of the cell; the underside considerably paler than

the upperside, the costal margin of the primaries and a submarginal row of spots on both wings yellowish-brown: head, thorax, and abdomen the same colour as the wings, the antennæ and legs yellowish-brown. The female is considerably larger than the male; it has a rather large square-shaped dark brown spot just below the end of the cell on the primaries, and on both wings the spots and markings are very much more distinct; the underside is also darker in colour, with all the spots better defined. Expanse, ♂ $1\frac{4}{10}$, ♀ $1\frac{3}{4}$ inch.

Hab. MEXICO, Coatepec (*coll. Schaus*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

The Mexican specimen in Mr. Schaus's collection is slightly larger and greyer in colour than any of those we have received from Guatemala.

10. *Sabulodes colombiata*.

Sabulodes colombiata, Guen. Sp. gén. des Léop. ix. p. 44¹; Walk. Cat. xx. p. 33².

Clysia subopalaria, Walk. Cat. xx. p. 46³.

Chærodes subclararia, Walk. Cat. xx. p. 221⁴; xxi. p. 493⁵.

Chærodes (?) *atropesaria*, Walk. Cat. xx. p. 222⁶.

Hab. MEXICO, Jalapa, Cuesta de Misantla (*M. Trujillo*), Cordova (*Rümeli*); GUATEMALA, Quiche Mountains 7000 to 9000 feet (*Champion*).—COLOMBIA^{1 2}, Bogota⁶; SOUTH-EAST BRAZIL, Rio Janeiro³; ANTILLES, San Domingo^{3 4}.

It is possible that *S. colombiata* may prove to be a large race of *S. caberata*; but, to judge from the specimens before me, I am inclined to consider it as distinct. It is always considerably larger, and is generally darker in colour and much more heavily marked.

11. *Sabulodes caberata*.

Sabulodes caberata, Guen. Sp. gén. des Léop. ix. p. 45¹; Walk. Cat. xx. p. 34².

Hab. MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Las Mercedes 3000 feet, San Isidro 1600 feet, Volcan de Atitlan 2500 to 3500 feet (*Champion*); COSTA RICA, Caché, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—BRAZIL^{1 2}.

This small species has a wide range in our region.

12. *Sabulodes matrica*, sp. n. (Tab. XLII. fig. 19, ♂.)

Male. Primaries and secondaries dull brownish-fawn-colour, thickly irrorated with darker scales; the primaries crossed from the costal to the inner margin by three waved dark lines—the first near the base, the second beyond the cell, and the third between it and the outer margin, the third line much curved above the anal angle and almost joining the second line on the inner margin,—and with a rather large indistinct spot just above the anal angle and a small spot at the end of the cell, both dark brownish-fawn-colour; the underside considerably paler in colour, with the costal and outer margins shaded with dusky brown, the secondaries with a marginal row of small black dots: head, thorax, abdomen, antennæ, and legs brownish-fawn-colour. The female is larger than the male, and has all the markings more distinct. Expanse, ♂ $1\frac{1}{2}$, ♀ $1\frac{6}{10}$ inch.

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).

Four specimens of this species are before me; they do not show any variation. A male from Costa Rica is figured.

CERTIMA.

Certima, Walker, Cat. xxi. p. 479 (1860).

This genus was founded by Walker upon a single species from Bogota. He placed it at the end of the Boarminæ, but it appears to me to be more nearly allied to *Sabulodes*; I therefore place it after that genus.

1. *Certima permutans*.

Certima permutans, Walk. Cat. xxi. p. 479¹.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA, Bogota¹.

A very common species on the Volcan de Chiriqui. Mr. Champion captured a large number of specimens of both sexes, which agree perfectly with Walker's types in the National Museum.

MUCRONODES.

Mucronodes, Guenée, Sp. gén. des Lép. ix. p. 47 (1857); Walker, Cat. xx. p. 36.

Two species, both from Brazil, were included in this genus by Guenée; and, according to Butler (Trans. Ent. Soc. Lond. 1881, p. 316), *Chærodes transcendens*, Walk., belongs to it. The sexes of the last-mentioned species are very much alike; females only were known to Guenée and Walker.

1. *Mucronodes transcendens*.

Chærodes transcendens, Walk. Cat. xx. p. 24¹.

Hab. MEXICO, Paso de San Juan (*coll. Schaus*); BRITISH HONDURAS, Corosal (*Roe, in mus. D.*); GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—WEST COAST OF AMERICA (*Kellett & Wood*¹); COLOMBIA; ECUADOR.

This species varies very much in colour, the examples from our region being generally paler than those from the South-American continent. Mr. Schaus informs me that this is a common insect in Eastern Mexico, but we have only received a few specimens of it.

2. *Mucronodes artemon*, sp. n. (Tab. XLII. fig. 20, ♂.)

Male. Primaries and secondaries dark reddish-fawn-colour; the primaries with the basal portion darker than the other part, a curved narrow line crossing the wing towards the base, a black dot at the end of the cell, and a narrow pinkish-brown line extending from the apex to the inner margin above the anal angle; the secondaries crossed beyond the middle from the costal to the inner margin by a narrow pale pinkish-

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brown line; the underside pale yellowish-fawn-colour, both wings slightly irrorated with black scales near the base: head, thorax, abdomen, antennæ, and legs brownish-fawn-colour. Expanse $1\frac{3}{4}$ inch.

Hab. MEXICO, Las Vigas (*coll. Schaus*).

One specimen.

CIMICODES.

Cimicodes, Guenée, Sp. gén. des Lép. ix. p. 49 (1857); Walker, Cat. xx. p. 37.

Guenée referred four species from Tropical America to this genus, and several have since been described by other authors. *Hygrochroa galbanaria*, Feld. & Rogenh., from the Amazons, belongs to it.

1. *Cimicodes clisthena*.

Phalæna Geometra clisthena, Cram. Pap. Exot. iv. p. 228, t. 397. f. L¹.

Cimicodes clisthenata, Guen. Sp. gén. des Lép. ix. p. 50².

Cimicodes clisthena, Walk. Cat. xx. p. 39³.

Cimicodes latata, Guen. Sp. gén. des Lép. ix. p. 50⁴; Walk. Cat. xx. p. 38⁵.

Hab. GUATEMALA, San Juan in Vera Paz (*Champion*); PANAMA, Chiriqui (*Arcé, in mus. D.*; *Trötsch, in mus. Staudinger*).—GUIANA, Surinam^{1 2 3}; SOUTH-EAST BRAZIL, Rio Janeiro^{4 5}.

This is a rather variable species, both in size and colour. Cramer's figure of *C. clisthena* is a very poor one, but I have no doubt that the insect described by Guenée under the name of *C. latata* belongs to the same species. *C. manoaria*, Feld. & Rogenh., from Brazil, although considerably larger in size, is probably a variety of *C. clisthena*.

2. *Cimicodes torquataria*.

Cimicodes torquataria, Walk. Cat. xx. p. 39 (♀)¹.

Gynopteryx liodesaria, Walk. Cat. xx. p. 97 (♂)².

Hab. MEXICO, Cuesta de Misantla (*M. Trujillo*); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (*Champion*).—VENEZUELA^{1 2}.

Our specimen from Mexico is a female, and agrees well with Walker's type of *C. torquataria* in the National Museum. It is quite possible that this species will have to be separated from *Cimicodes*, the antennæ of the male being rather deeply pectinated.

C. galbanaria (Feld. & Rogenh.) is closely allied to this species, from which it may be at once distinguished by having three (instead of two) lines crossing the primaries.

3. *Cimicodes primularia*, sp. n. (Tab. XLII. fig. 21, ♂.)

Male. Primaries and secondaries pale primrose-yellow, a greenish-yellow line crossing the primaries from the apex to the middle of the inner margin, this line being continued across the secondaries to a little above the middle of the inner margin; the primaries with a very faint curved line crossing near the base from the costal to the inner margin, and two confluent spots, these spots whitish-brown, edged with dark

brown, and placed about halfway between the costal and inner margins on the outer side of the dark line, the upper one small, the lower one considerably larger; the secondaries with two similar spots above the anal angle and nearest the inner margin; the fringe primrose-yellow, slightly darker than the wings; the underside of a brighter and darker yellow colour than the upperside, the primaries only crossed by a reddish-brown line (corresponding with the line on the upperside), the secondaries with three small reddish-brown spots near the apex, both wings very slightly irrorated with dark reddish-brown scales: head, thorax, abdomen, and legs pale yellow, the antennæ and palpi pale brown. Expanse $1\frac{1}{2}$ inch.

Hab. GUATEMALA, Senahu in Vera Paz 2500 feet (*Champion*).—ECUADOR, Sarayacu (*Buckley, in mus. D.*).

One specimen of this very distinct species has been received from Guatemala. An example of the female from Ecuador is contained in my own collection; it differs from the male only in the entire absence of the spots on the wings.

PARAGONIA.

Paragonia, Hübner, Verz. bek. Schmett. p. 292 (1816).

Clysia, Guenée, Sp. gén. des Lép. ix. p. 50 (1857); Walker, Cat. xx. p. 40.

Hübner included a single species, *Phalæna tasima*, Cram., from Surinam, under this generic name. The genus is represented in Central America by four species, including *P. tasima*.

1. *Paragonia tasima*.

Phalæna Geometra tasima, Cram. Pap. Exot. iii. p. 80, t. 240, ff. D, E¹.

Paragonia tasimaria, Hübn. Verz. bek. Schmett. p. 292².

Clysia tasimata, Guen. Sp. gén. des Lép. ix. p. 52³.

Clysia tasima, Walk. Cat. xx. p. 42⁴.

Paragonia tasima, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 395⁵.

Clysia discolor, Walk. Journ. Linn. Soc., Zool. ix. p. 195⁶.

Paragonia nummularia, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 395⁷.

Clysia ædipodaria, Oberth. Etudes d'Ent. vii. p. 19, t. 2. f. 8⁸.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).—COLOMBIA, Bogota⁶; GUIANA, Surinam^{1 3 4}, Paramaribo^{5 7}; PERU, Tambillo⁸.

This species varies very considerably in the distinctness of the markings, and also in colour. The type of *Clysia discolor*, Walk., is now in my own collection; it is inseparable from Cramer's species. The specimen from Chiriqui in Dr. Staudinger's collection has a distinct white costal spot, and the usual markings and spots are very indistinct. In some of the Ecuador examples in my collection, captured by Buckley, the white costal spot is just visible. Walker mentions⁴ a specimen from Rio Janeiro in Mr. Fry's collection, which has the white costal spot; he also states⁴ that *Clysia comiciata*, Guen., seems to be identical with *Paragonia tasima* (Cram.), which I am inclined to think is correct.

2. *Paragonia occiduata*.

Clysia (?) *occiduata*, Guen. Sp. gén. des Léop. ix. p. 52¹; Walk. Cat. xx. p. 42².

Hab. PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1500 feet (*Champion*).—BRAZIL^{1 2}.

This species is allied to *P. cruraria* (Herr.-Schäff.), of which it is possible it may be an extreme variety. It is, however, considerably brighter in colour, and differs from that insect by having the outer margin of the secondaries straight in both sexes, instead of dentated as in *P. cruraria*.

3. *Paragonia cruraria*.

Macaria cruraria, Herr.-Schäff. Samml. aussereur. Schmett. pp. 63, 80, f. 198¹.

Clysia cruraria, Guen. Sp. gén. des Léop. ix. p. 51²; Walk. Cat. xx. p. 42³.

Paragonia cruraria, Möschl. Verh. zool.-bot. Ges. Wien, 1881, p. 395⁴.

Hab. MEXICO, Paso de San Juan, Jalapa, Coatepec (*coll. Schaus*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, San Isidro, Volcan de Atitlan 2500 to 3500 feet, Pantaleon (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*).—GUIANA, Paramaribo⁴, Surinam¹; BRAZIL^{2 3}.

In Mexico and Guatemala this appears to be a very common insect. It varies much in colour and in the distinctness of the markings; but, so far as the large number of specimens before me show, *P. cruraria* is always of a duller tint than either of the preceding species. At the same time, it is quite possible that *P. occiduata* and *P. cruraria* may prove to be forms of *P. tasima*, Cram.

4. *Paragonia arbocala*, sp. n. (Tab. XLII. fig. 22, ♂.)

Male. Primaries and secondaries from the base to considerably beyond the middle pale yellowish-brown, shading in parts almost to white, and thickly irrorated with very fine brown lines; the primaries crossed from the costal to the inner margin by two dark brown waved lines—the first crossing the wing about the middle of the cell, the second beyond it, the latter not reaching the inner margin, but joining the very wide outer greyish-brown border about the middle; the secondaries very broadly bordered with greyish-brown from the costal margin to the apex; a small black spot at the end of the cell on both wings; the underside very similar to the upperside, but much paler in colour: head, thorax, abdomen, and legs pale yellowish-brown, the anal tuft almost white; the antennæ and palpi pale yellowish-brown. The female is slightly darker in colour than the male. Expanse, ♂, $1\frac{7}{10}$ ♀ $1\frac{3}{4}$ inch.

Hab. MEXICO, Amula in Guerrero 6000 feet (*H. H. Smith*), Jalisco (*Schumann*).

Allied to *P. occiduata*, Guen.

PROCHÆRODES.

Prochærodes, Grote, Trans. Kansas Acad. viii. p. 55; Ann. & Mag. Nat. Hist. (5) xi. p. 55 (1883).

Grote gives *Phalæna transversata*, Drury, from North America, as the type of this genus, and adds a second species, from New Mexico, to it. I include in it three species from Central or South America, one of which is described as new.

1. *Prochærodes transtincta*.

Chærodes transtincta, Walk. Cat. xx. p. 20¹.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet, San Gerónimo (*Champion*).—JAMAICA¹.

Two specimens from Guatemala, both females, agree with Walker's type of this species in the British Museum.

2. *Prochærodes arrhapa*, sp. n. (Tab. XLII. fig. 23, ♀.)

Female. Primaries and secondaries dark reddish-brown, in some lights with a bluish-white gloss; the primaries with a V-shaped white mark on the costal margin near the apex, below which on the outer side of the fine line that crosses the wing from the costal to the inner margin are a number of small white dots, a grey spot with a black point in the middle at the end of the cell, and three white spots crossing the wing near the base; the secondaries crossed about the middle from the costal to the inner margin by a narrow greyish-brown line; the fringe dark brown; the underside greyish-brown, darker at the apex and round the outer margin, a black dot on both wings at the end of the cell, and a small white spot on each vein, these spots forming a row that crosses both wings beyond the middle from the costal to the inner margin: head, thorax, abdomen, and antennæ dark brown; the legs brown, thickly spotted with yellowish-white. Expanse 2 inches.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).

3. *Prochærodes columbipennis*. (Tab. XLII. fig. 24, ♂.)

Clysia columbipennis, Walk. Cat. xx. p. 44¹.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Bugaba 800 to 1000 feet (*Champion*), Volcan de Chiriqui (*Arcé, in mus. D.*).—COLOMBIA; ECUADOR; AMAZONS, Santarem¹.

From the more southern localities mentioned above we have a good series of specimens, which show a considerable amount of variation in the size and colour of the dark spot near the anal angle of the primaries. On the underside the markings are all very constant. The sexes differ very little from each other in colour or shape. We figure a male example from Bugaba.

LYCIMNA.

Lycimna, Walker, Cat. xx. p. 214 (1860).

Walker founded this genus upon a species from Silhet, and Butler (Trans. Ent. Soc. Lond. 1881, p. 317) has referred *Clysia succedens*, Walk., from Tropical South America, to it. *Lycimna* was placed by Walker in the Ennominae, but it appears to me to belong to the Urapteryginae.

1. *Lycimna latrata*.

Azelina latrata, Guen. Sp. gén. des Léop. ix. p. 163¹; Walk. Cat. xx. p. 193²; Herr.-Schäff. Corr.-Blatt zool.-min. Ver. Regensb. 1870, sep. copy, p. 49³.

Clysia succedens, Walk. Cat. xx. p. 43⁴.

Paragonia succedens, Feld. & Rogenh. Reise der Novara, Lep. t. 122. f. 11⁵.

Hab. MEXICO, Coatepec (*Brooks, coll. Schaus*), Jalapa (*Godman, Schaus, M. Trujillo, Höge*), Cuesta de Misantla (*M. Trujillo*); GUATEMALA, San Joaquin, Las Mercedes 3000 feet (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*).—COLOMBIA^{1 2}, Bogota^{4 5}; ECUADOR, Quito⁴; BRAZIL^{1 2}; CUBA³.

A common species in Mexico and Central America. It varies very considerably, not only in size but in colour; some specimens are much darker than others. We have one example from Guatemala very nearly agreeing with Felder and Rogenhofer's figure, but most of them are more highly coloured; on the underside they do not show the slightest variation.

2. *Lycimna caninata*. (Tab. XLIII. figg. 1, ♂; 2, ♀.)

Azelina caninata, Guen. Sp. gén. des Lép. ix. p. 163¹; Walk. Cat. xx. p. 194² (nec Snellen).

Hab. GUATEMALA, San Gerónimo (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—COLOMBIA^{1 2}.

This species varies considerably in the depth of colour on the secondaries; the neuration is similar to that of *L. latrata*. The insect figured by Snellen as *Azelina caninata*, Guen. (Tijdschr. voor Ent. xvii. t. 2. f. 4), belongs to another species, and I propose the name *snelleni* for it.

3. *Lycimna brantsiata*.

Tetracis brantsiata, Snell. Tijdschr. voor Ent. xvii. p. 28, t. 2. f. 2¹.

Hab. COSTA RICA (*mus. Staudinger*); PANAMA, Chiriqui (*Arcé, in mus. D.; Ribbe, in mus. Staudinger*).—COLOMBIA¹.

I have received three specimens of this species from Arcé, and there are two others in Dr. Staudinger's collection.

4. *Lycimna matalia*, sp. n. (Tab. XLIII. fig. 3, ♂.)

Male. Primaries and secondaries light fawn-colour, thickly irrorated with black and dark brown scales; the primaries with three short brown streaks on the costal margin, three black spots near the outer margin above the anal angle, and a faint greenish-white narrow line crossing from the apex to the inner margin slightly above the anal angle, the outer margin and the fringe slightly reddish-brown; the secondaries crossed below the middle from the costal to the inner margin by a greenish-white line, above which is a dark brown zigzag line, and with a submarginal row of black spots extending from the apex to the anal angle, the spots nearest the anal angle being considerably larger than the others; a minute black dot at the end of the cell on both wings; the underside greyer in colour, thickly irrorated with brown and greenish-white scales, the primaries crossed from the costal to the inner margin by two faint brown bands—the first near the base, the second slightly beyond the end of the cell,—both wings crossed by a row of black dots with white points on the outer side, the primaries with a submarginal zigzag white line extending from the apex (where it is very distinct) to the anal angle; the fringe on the underside rather lighter than it is above: head, thorax, abdomen, antennæ, and legs pale fawn-colour. Expanse 1½ inch.

Hab. PANAMA, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR, Sarayacu (*Buckley*).

A single example from each locality, both males. The specimen from Ecuador in my own collection is slightly paler in colour than the one from Chiriqui.

5. **Lycimna artena**, sp. n. (Tab. XLIII. fig. 4, ♂.)

Male. Primaries and secondaries pale fawn-colour; the primaries with a broad space along the outer margin considerably darker, a black dot at the end of the cell, and two narrow pale yellowish-white lines crossing from the costal to the inner margin—the first nearest the base, >-shaped, the second extending from near the apex to the middle of the inner margin; a line in continuation of the outer one on the primaries extending across the secondaries to the inner margin; the fringe fawn-colour; the underside pale yellowish-fawn-colour, that of the primaries darker in colour, thickly irrorated with dark brown scales, a dark brown line partly crossing the primaries beyond the middle. Expanse $1\frac{3}{4}$ inch.

Hab. GUATEMALA, Panima in Vera Paz (*Champion*).

One specimen from the Atlantic slope of Guatemala. The strongly angulate shape of the wings will be best understood from our figure.

ACROSEMIA.

Acrosemia, Herrich-Schäffer, Samml. aussereur. Schmett. pp. 31, 64 (1855); Butl. Trans. Ent. Soc. Lond. 1881, p. 317.

Oxydia, Guenée, Sp. gén. des Léop. ix. p. 52 (1857) (part.).

Herrich-Schäffer included two species in this genus, both from Tropical America; and Butler has added several others from Chili.

1. **Acrosemia vulpecularia**.

Acrosemia vulpecularia, Herr.-Schäff. Samml. aussereur. Schmett. p. 64, f. 349¹.

Oxydia vulpecularia, Guen. Sp. gén. des Léop. ix. p. 54²; Walk. Cat. xx. p. 49³; Snell. Tijdschr. voor Ent. xvii. p. 14⁴.

Hab. MEXICO, Jalapa (*coll. Schaus*); GUATEMALA, Senahu in Vera Paz (*Champion*); COSTA RICA, Volcan de Irazu 6000 to 7000 feet (*Rogers*); PANAMA, Chiriqui (*Trötsch, in mus. Staudinger*), Volcan de Chiriqui 2000 to 4000 feet (*Champion*).—COLOMBIA⁴; BRAZIL^{1 2 3}.

This species varies considerably in colour: Central-American examples are usually much brighter than those from the South-American continent, but the single specimen before me from Mexico is the palest I have seen.

A. vulpecularia is a common insect on the slope of the Volcan de Chiriqui.

IRA.

Ira, Walker, Cat. xxxv. p. 1562 (1866); Butler, Trans. Ent. Soc. Lond. 1881, p. 317.

This genus is very closely allied to *Acrosemia*, and agrees with it in having the antennæ simple in both sexes. *Ira* contains a few species from Central or South America.

1. *Ira bendiata*.

Oxydia bendiata, Guen. Sp. gén. des Léop. ix. p. 54, Phalén. t. 4. f. 4¹; Walk. Cat. xx. p. 50².

Hab. GUATEMALA, Las Mercedes 3000 feet (*Champion*); PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*), Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—ECUADOR; BRAZIL^{1 2}, Rio Janeiro.

Guenée's figure of this insect is a very poor one: specimens from Rio Janeiro in my own collection agree best with it, but I am unable to separate them from the darker ones before me from Central America. *I. bendiata* varies very considerably in size and colour, and also in the distinctness of the markings. We have received a large series of the species; the females are always larger, and generally of a darker brown colour, than the males.

2. *Ira vinosata*.

Oxydia vinosata, Guen. Sp. gén. des Léop. ix. p. 55¹; Walk. Cat. xx. p. 50².

Hab. PANAMA, Chiriqui (*Ribbe, in mus. Staudinger*).—BRAZIL^{1 2}; PERU.

A female example of this species from Chiriqui is contained in Dr. Staudinger's collection.

HERBITA.

Herbita, Walker, Cat. xx. p. 212 (1860).

The single species included in this genus by Walker is from Venezuela; two others are now added to it from within the limits of our fauna. *Herbita* is allied to *Ira*, from which it may be at once distinguished by the pectinated antennæ of the males.

1. *Herbita artayctes*, sp. n. (Tab. XLIII. figg. 5, ♂; 6, ♀.)

Male. Primaries and secondaries brownish-fawn-colour; the primaries irrorated near the base, along the inner margin, and on the outer margin with greyish-white scales, and with a greyish-white spot on the costal margin near the apex, two faint darker brown bands crossing from the costal to the inner margin, a narrow, rather indistinct waved brown line extending from the apex to the anal angle, and a small black dot at the end of the cell; the secondaries very slightly irrorated with minute black scales, and with a submarginal row of very minute white spots and a black spot at the end of the cell; the fringe brownish-fawn-colour; the underside considerably paler and greyer in colour, and very slightly irrorated with black scales: head, thorax, abdomen, antennæ, and legs brownish-fawn-colour. The female paler in colour than the male, and with all the markings blacker. Expanse, ♂ ♀, 2 inches.

Hab. MEXICO, Jalapa, Coatepec, Paso de San Juan (*coll. Schaus*).

The only specimens I have seen of this insect are those captured by Mr. Schaus, from a pair of which our figures are taken.

2. *Herbita medama*, sp. n. (Tab. XLIII. figg. 7, ♂; 8, ♀.)

Male. Primaries pale fawn-colour, crossed from the costal margin near the apex to about the middle of the inner margin by a fine blackish line, which is edged on the outer side with greyish-white, and with two waved darker brown bands crossing from the costal to the inner margin—the first about the middle of the cell, the second beyond it,—and a very minute black dot at the end of the cell, the outer margin broadly